

Serial No.: 10/724,272

Docket No.: UNI 0050 PA/40809.67

Amendments to the Specification

Please replace paragraphs [0009]-[0010] with the following amended paragraphs.

[0009] Any suitable salt of Al may be used, singularly or in combination with other Al salts. For example, ~~an aluminum nitrate salt such as $\text{Al}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$, an aluminum perchlorate, and an aluminum sulfate salt may be used.~~ For example, the Al salt may comprise an aluminum nitrate salt such as $\text{Al}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$, an aluminum perchlorate, an aluminum sulfate salt, and combinations thereof. Any suitable salt of Y may be used, singularly or in combination with other Y salts. For example, ~~a yttrium nitrate salt such as $\text{Y}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$, a yttrium perchlorate, and a yttrium sulfate salt may be used.~~ For example, a Y salt may comprise an yttrium nitrate salt such as $\text{Y}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$, an yttrium perchlorate, and an yttrium sulfate salt, and combinations thereof. The Al salt and Y salt may be dissolved in de-ionized water to form the aqueous mixture.

[0010] Any suitable reducing and oxidizing agents may be used and added to the aqueous mixture in any suitable manner. ~~For example, alanines, such as β -alanine and DL-alanine, may be used as reducing agents, and ammonium nitrate may be used as an auxiliary oxidizing agent.~~ For example, the aqueous mixture comprises at least one reducing agent such as alanine, and at least one auxiliary oxidizing agent such as ammonium nitrate. The alanine may comprise β -alanine, DL-alanine, or combinations thereof. The total moles of the reducing agent and the auxiliary oxidizing agent may be between about 1.4 to about 1.5 times the total moles of the Al salt plus the Y salt. For example, the total moles of the reducing and auxiliary oxidizing agent may be about 1.48 times the total moles of the Al salt plus the Y salt. When the reducing and auxiliary oxidizing agents comprise alanine and ammonium nitrate, the mole ratio of ammonium nitrate to alanine may be between about 1.4 to about 1.5. For example, the mole ratio may be about 1.49. The reducing and auxiliary oxidizing agents may be added to the aqueous mixture and completely dissolved by vigorous stirring. The mixture may then be heated to remove the water from the mixture. For example the mixture may be heated to about 110 °C for about 2 to about 3 hours.

Please replace paragraphs [0020] with the following amended paragraph.

Serial No.: 10/724,272

Docket No.: UNI 0050 PA/40809.67

[0020]A doped powder may be formed in accordance with either of the preceding methods. In order to form a doped powder, a rare earth salt may be substituted for a portion of the yttrium salt such that the ratio of rare earth plus yttrium to aluminum is 3:5. Any suitable rare earth element, or combination of rare earth elements may be used. For example, Nd, Yb, Sc, Pr, Eu, and Er, and combinations thereof may be used. Any suitable rare earth salt may be used. For example, the rare earth salt may comprise neodymium nitrate, $\text{Nd}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$, and the neodymium nitrate may be added such that neodymium substitutes for 2 atomic percent of the yttrium. Thus, the resulting doped YAG will have a stoichiometry of $(\text{Nd}_{0.02}\text{Y}_{0.98})_3\text{Al}_5\text{O}_{12}$. It will be understood that the rare earth salt may be substituted in any desired proportion to the Y. The mixtures are further processed as discussed above.